



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

Kush.

D3173-041
Job Sheet 166495



Part No: D3173-041

Job Qty: 1 ea

Part Name: Beam Assembly



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 10/3/17

Job Tracking No:

Due Date: 10/31/17

Created By: Linda Lacelle

Type: Stock

Description:

Note: DWG REV B IPP A 02.12.05 New issue KJ/RF IPP Rev:B 08-09-25 update procedure DD verified by:EC

Ship Via:

Bill of Materials

Part/Part Name	Part Note	Serial No	Quantity	Location
D3173-041 Beam Assembly	DWG REV B IPP A 02.12.05 New issue KJ/RF IPP Rev:B 08-09-25 update procedure DD verified by:EC		0.000	
AN3-5A Bolt			0.000	
AN5-23A Bolt			0.000	
AN960JD10 Washer			0.000	
AN960JD516 Washer			0.000	
D3175-041 Mounting Lug	DWG REV A IPP: B 03.02.28 Modify Step 1,2,3,4,21,23 KJ/RF		0.000	
D3178-041 Nut Plate	DWG REV A IPP: B 03.02.28 Modify Step 1,2,3,4,21,23 KJ/RF		0.000	
M6061T6TR4.0X2.0W125 6061-T6 Rect Tube 4.0 X 2.0 X .125W			0.000	
MS20601-AD4W4 Rivet			0.000	
MS21042L5 Nut			0.000	

Job Routing

Op No	Operation	Qty	Due Date	Standard		Workcenter/Supplier	
				Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time
90	Start up Operation	1 Ea	10/30/17	0.00	0.00	Start up container	Kt 17-11-07
100	Bandsaw	1 pcs	10/30/17	0.00	0.00	Bandsaw1	Kt 17-11-07
110	CNC Vertical Machining	1 pcs	10/30/17	0.00	0.51	HAAS 1	Kt 17-11-07
120	QC	1 pcs	10/30/17	0.00	0.00	QC2	Kt 17-11-07
130	QC	1 pcs	10/30/17	0.00	0.00	QC8	
140	Small Fab <i>MILL CONN.</i>	1 pcs	10/30/17	0.00	0.58	Small Fab	Kt 17-11-07
150	QC	1 pcs	10/30/17	0.00	0.00	QC5	38
160	HandFinish	1 pcs	10/30/17	0.00	0.29	HandFinish1	BER 2017/11/09
170	QC	1 pcs	10/30/17	0.00	0.00	QC3	BR 17-11-10
180	Powdercoat	1 pcs	10/30/17	0.00	0.09	Powdercoat1	BR 17-11-10
190	QC	1 pcs	10/30/17	0.00	0.00	QC3	
200	Small Fab	1 pcs	10/31/17	0.00	0.58	Small Fab	DAS
210	QC	1 pcs	10/31/17	0.00	0.00	QC5	38
220	Packaging	1 pcs	10/31/17	0.00	0.00	Packaging3	31477

Part Op 100 - Cut blank: 56" long Machine holes as per Folio FA295 and Dwg D3173 Identify as D3173-1
 Descriptions: 110 - Machine holes as per Folio FA295 and Dwg D3173 Identify as D3173-1

NOV 15 2017

DAS
21
9-89

120 - NULL

130 - NULL

140 - 1-Drill Ø0.316" holes as per Dwg D3173 2-C'sink holes as per Dwg D3173 3-deburr

150 - NULL

160 - NULL

170 - NULL

180 - Ensure Nut Plate thread is covered. START TIME: 12:35 OVEN TEMPERATURE: 320° FINISH TIME: 12:05 M138014

190 - NULL

200 - Assemble per Dwg D3173. Install Mounting Lug as per Dwg D3173. D3175-041 is included in K10017 BOM.

210 - NULL

220 - NULL

230 - NULL

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	M6061T6TR4.0X2.0W125	5	0	0	0
	MS21042L5 S000558	2	0	0	0
200-Small Fab	AN3-5A FM137963-40	8	0	0	0
	AN5-23A FM134943, 80	2	0	0	0
	NAS1149D0363J AN980JD10 FM137963-15	8	0	0	0
	NAS1149D0563J AN980JD510 FM138209-14	4	0	0	0
	D3175-041 S007967	2	0	0	0
	D3178-041 S009137	2	0	0	0
	MS20601-AD4W4 F113749	8	0	0	0

Part Specifications

Specifications could not be found.

Plex 10/3/17 6:24 AM dart.lacelle.linda

DART
 AEROSPACE
S007976



Beam Assembly

PART NO: D3173-041
Revision:
Operation: QC
Change No:

Dart Aerospace Ltd.

1270 Aberdeen Street
 Hawkesbury, ON K64 1K7
 CANADA
 TEL.: 1 613 632-5200
 Email: sales@dartaero.com
 www.dartaerospace.com

Mfg Date: 11/08/17
Job No: 166495

Quality Control

Work Order ID 166495***166495***

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Monday, September 25, 2017 11:47:32 AM

Item ID: D3173-041 **Accept** ***N900040100*** **Setup Start** ***NS1***
Revision ID: **Stop** ***NS2***
Item Name: Beam Assembly
Start Date: 9/25/2017 **Start Qty:** 1.00 ***1*** **Cust Item ID:**
Required Date: 10/5/2017 **Req'd Qty:** 1.00 ***1*** **Customer:**
Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run Start** ***NR1***
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Chemical Conversion Coat per QSI005 4.1	0.00							
160									
HandFinish	Memo	0.23							
Hand Finishing									
170	QC3- Inspect Part Finish	0.00							
170									
QC	Memo	0.01							
Quality Control									
180	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
180									
Powdercoat	Memo	0.42							
Powder Coating	Ensure Nut Plate thread is covered. START TIME: _____ OVEN TEMPERATURE: _____ FINISH TIME: _____								

Work Order ID 166495***166495***

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Monday, September 25, 2017 11:47:32 AM

Item ID: D3173-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Beam Assembly
Start Date: 9/25/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 10/5/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 *190* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.01				_____	_____	_____	_____
200 *200* Small Fab Small Fab	Small Fab Memo Assemble per Dwg D3173. Install Mounting Lug as per Dwg D3173. D3175-041 is included in K10017 BOM.	0.00 0.67				_____	_____	_____	_____
210 *210* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.02				_____	_____	_____	_____

Monday, September 25, 2017 11:47:32 AM

Parent Item: D3173-041

Parent Item Name: Beam Assembly

Start Date: 9/25/2017

Required Date: 10/5/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP A02.12.05New issueKJ/RF
IPP Rev:B 08-09-25 update procedure DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN3-5A		Purchased	No			200	Each	334.0000	8	8			
AN3-5A													
Bolt													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				GA		101							
				m137963		101							
				ST350		233							
				m136986		85							
				m137963		148							
AN5-23A		Purchased	No			200	Each	28.0000	2	2			
AN5-23A													
Bolt													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST337		28							
				M134943		28							
AN960JD10	NAS1149D0363J	Purchased	No			200	Each	0.0000	8	8			
AN960.ID10													
WASHER													
AN960JD516	NAS1149D0563J	Purchased	No			200	Each	0.0000	4	4			
AN960.ID516													
Washer													
D3175-041		Manufactured	No			200	Each	0.0000	2	2			
D3175-041													
Mounting Lug													

Picklist Print

Monday, September 25, 2017 11:47:32 AM

Page 2

Work Order ID: 166495

166495

Parent Item: D3173-041

D3173-041

Parent Item Name: Beam Assembly

Start Date: 9/25/2017

Required Date: 10/5/2017

Start Qty: 1.00

Required Qty: 1.00

D3178-041 Manufactured No

170 Each 29.0000 2 2

D3178-041

**

Nut Plate

Location

Loc Qty

Loc Code

Mezz

29

53459

1

53810

28

MS20601-AD4W4 Purchased No

200 Each 532.0000 8 8

MS20601-AD4W4

**

Rivet

Location

Loc Qty

Loc Code

over004

200

m135470

200

ST307

332

113749

182

m136150

150

MS21042L5 Purchased No

100 Each 233.0000 2 2

MS21042L5

**

Nut

Location

Loc Qty

Loc Code

GA

8

m127813

8

ST303

223

m138209

123

m138336

100

ST305

2

m137963

2

Monday, September 25, 2017 11:47:32 AM

Shop Packet Print

Page 2

Picklist Print

Monday, September 25, 2017 11:47:32 AM

Work Order ID: 166495

166495

Parent Item: D3173-041

D3173-041

Parent Item Name: Beam Assembly

Start Date: 9/25/2017

Required Date: 10/5/2017

Start Qty: 1.00

Required Qty: 1.00

M6061T6TR4.0X2.0W1
25

Purchased

No

100

f

5.5830

4.7

4.947368

M6061T6TR4 0X2 0W125

**

6061-T6 Rect Tube 4.0 x 2.0 x .125w

Location

Loc Qty

Loc Code

MAT028

5.583

114352

5.583

8005749 → 4.7



DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3173	REV. B SHEET 1 OF 3
DATE 03.01.07		TITLE BEAM ASSEMBLY	SCALE NTS
A	02.12.03	NEW ISSUE	
B	03.01.07	REMOVE PIP PINS	

PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3173-041	BEAM ASSEMBLY
1	D3173-1	BEAM
2	D3175-041	MOUNTING LUG
2	D3178-041	NUT PLATE
8	AN960JD10	WASHER
4	AN960JD516	WASHER
2	MS21042L5	NUT
8	MS20601AD4W4	RIVET
8	AN3-5A	BOLT
2	AN5-23A	BOLT

NOTES

D3173-1 BEAM:

- 1) PART IS SYMMETRICAL ABOUT CENTERLINE
- 2) MATERIAL: 6061-T6 RECTANGULAR TUBING, 4" x 2" x 0.125" WALL (QQ-A-200/8)
(REF DART SPEC. M6061T6TR4.0x2.0W125)
- 3) BREAK ALL SHARP EDGES 0.010-0.020
- 4) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3 OUTSIDE ONLY
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

RELEASED
03.01.20 *[Signature]*

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 106495

u4 17/9/25

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

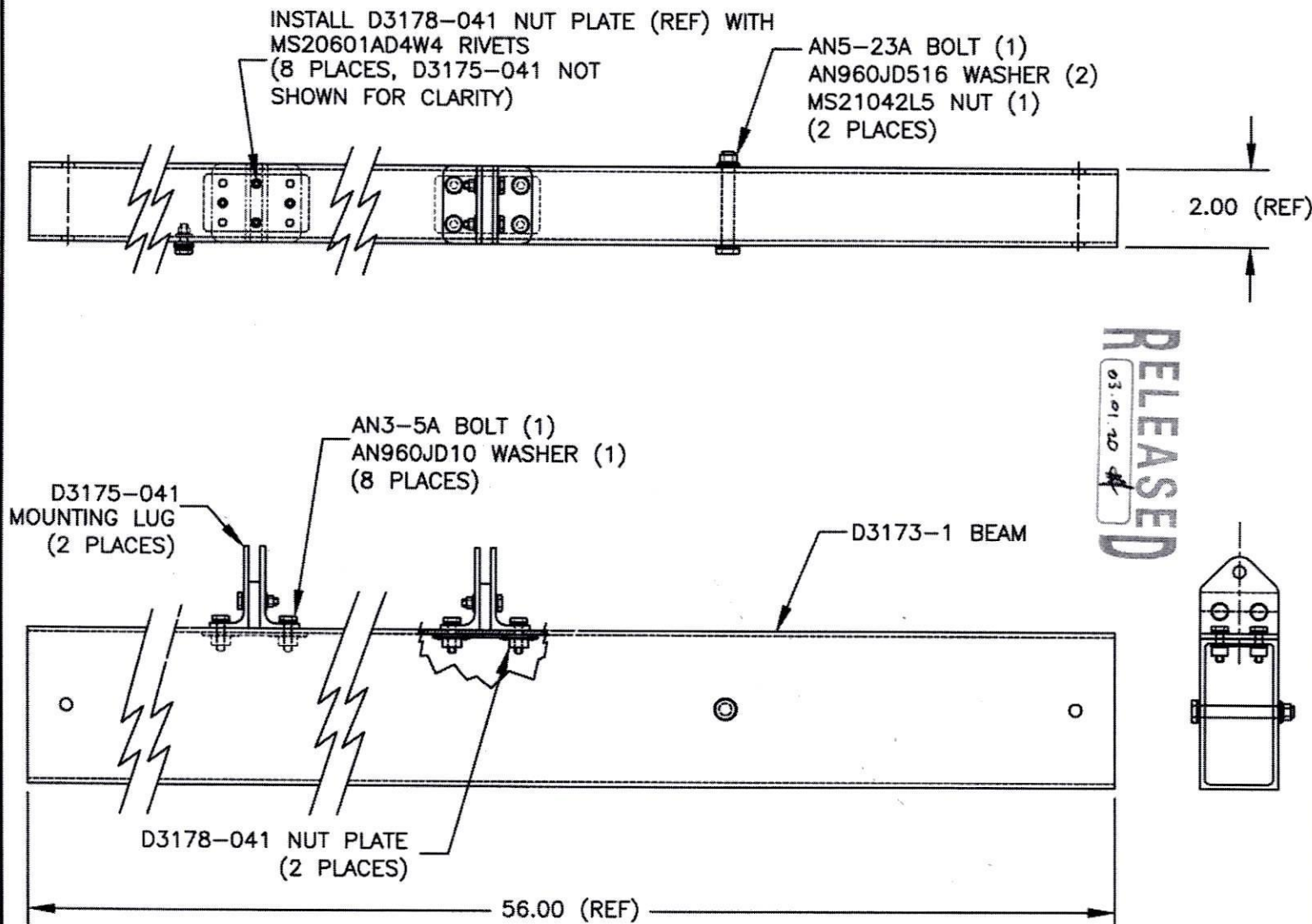
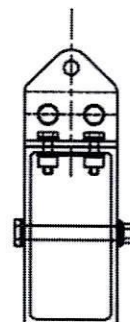
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					



DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. B
DATE		TITLE	SHEET 2 OF 3
03.01.07		BEAM ASSEMBLY	SCALE 1:4

RELEASED
03.01.20



D3173-041 BEAM ASSEMBLY

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

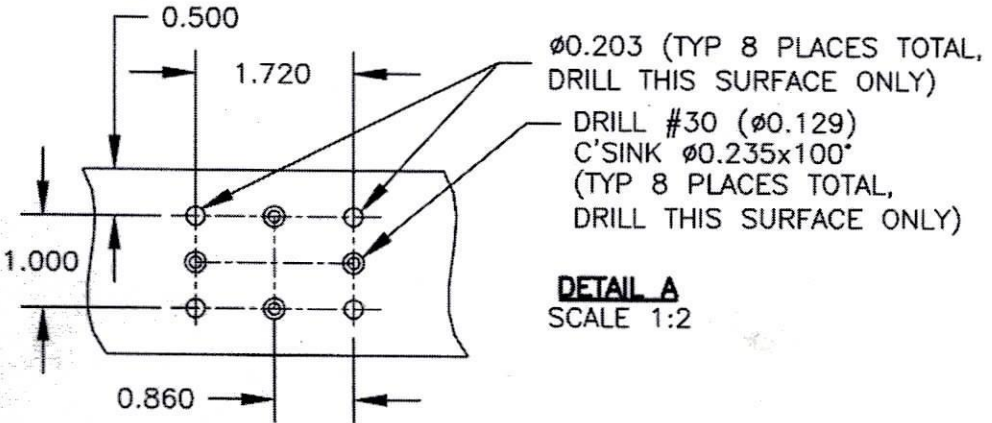
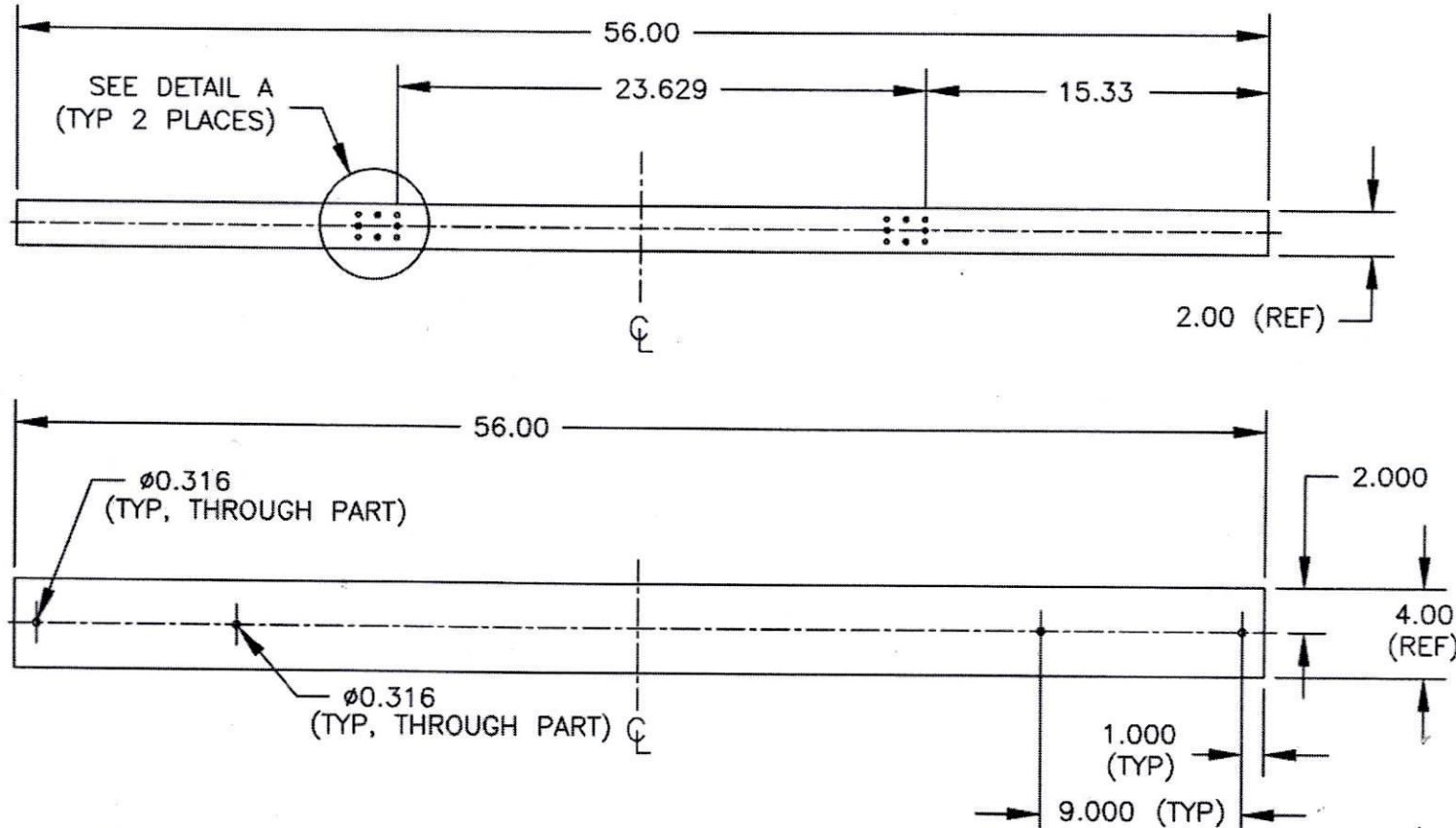
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					



DESIGN	DRAWN BY	DART AEROSPACE LTD
CHECKED	APPROVED	HAWKESBURY, ONTARIO, CANADA
DATE	DRAWING NO.	REV. B
03.01.07	D3173	SHEET 3 OF 3
	TITLE	SCALE
	BEAM ASSEMBLY	1:8

D3173-1 BEAM



RELEASED
03.01.07

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		FAULT CATEGORY Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
OTHER : _____									

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition			Completed By
RA112163		D130-701-043			Lead hand / Supervisor Approval Verification
					QC / QA Coordinator Approval
					Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐
FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
OTHER : _____					